A2T Q3 T3 Review Answer Key

1)

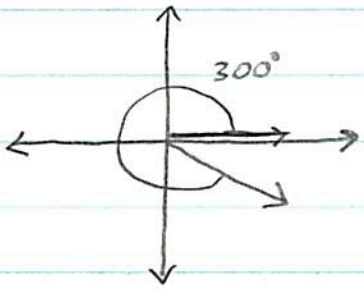
A	B	C	D
-255	-240	-110	120
+ 360	+360	+360	QII
105	120	250	
QII	QII	QIII	

2) $-645 + 360 = -285$

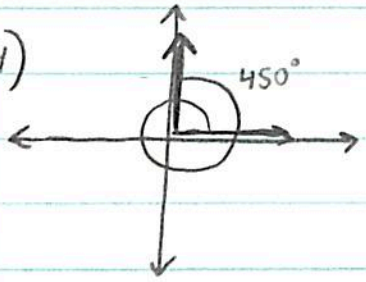
$-285 + 360 = 75$ QI

(D)

3)



4)



5) $915 - 360 = 555$

$555 - 360 = 195$

(A)

6) $-610 + 360 = -250$

$-250 + 360 = 110$

(D)

7) $-111 + 360 = 249$

$-111 - 360 = -471$

8) $90 - 360 = -270$

Yes they are coterminal

9) $108 \cdot \frac{\pi}{180} = \frac{108\pi}{180} = \frac{3\pi}{5}$

(A)

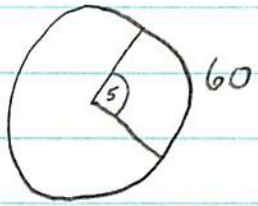
10) $160 \cdot \frac{\pi}{180} = \frac{160\pi}{180} = \frac{8\pi}{9}$

11) $\frac{-11\pi}{6} = \frac{-11(180)}{6} = -330$

12) $-2.5 \cdot \frac{180}{\pi} = \frac{-450}{\pi} = \boxed{-143.2^\circ}$

13) $\frac{11\pi}{18} = \frac{11(180)}{18} = \boxed{110^\circ}$

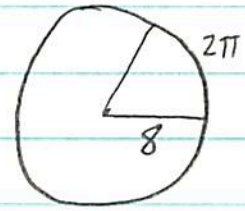
14) $1.5 \cdot \frac{180}{\pi} = \boxed{\frac{270^\circ}{\pi}}$

15) 

$\theta = \frac{s}{r} \quad 5 = \frac{60}{r}$

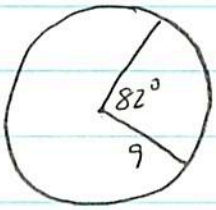
$5r = 60$

$r = 12$ (B)

16) 

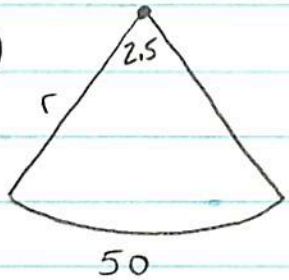
$\theta = \frac{s}{r} \quad \theta = \frac{2\pi}{8}$

$\theta = \frac{\pi}{4}$ (C)

17) 

$\theta = \frac{s}{r} \quad \frac{41\pi}{90} = \frac{s}{9} \quad \frac{90s}{90} = \frac{369\pi}{90} = 12.88\text{cm}$

$82^\circ \cdot \frac{\pi}{180} = \frac{41\pi}{90}$ radians

18) 

$2.5 = \frac{50}{r}$

$2.5r = 50$

$\boxed{r = 20\text{ cm}}$

19) x is the cosine

cos 120°

Q = II

R = 180 − 120 = 60°

S = −

T = − cos 60°

cos 120 = $\boxed{-\frac{1}{2}}$

(A)

20) $\frac{3\pi}{4} = \frac{3(180)}{4} = 135°$

cos 135

Q = II

R = 180 − 135 = 45

S = −

T = − cos 45

$\boxed{x = -\frac{\sqrt{2}}{2}}$ (D)

21) $\cos\theta = 0$ when the x-value on the unit circle is 0.

$\boxed{\theta = 90°, 270°}$

22) $\cos x = -\frac{\sqrt{2}}{2}$ cos is negative in QII and QIII

(B)

23) 280 is in QIV

Ref Angle = 360 − 280 = $\boxed{80°}$ (A)

24) sin(−210) = sin(150)

−210

+360

150

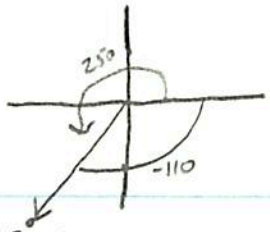
Q = II

R = 180 − 150 = 30

S = +

T = sin 30

$= \frac{1}{2}$ (B)

25) 

In QIII

$-110° =$
$+360$
250

$RA = 250 - 180$

$RA = \boxed{70°}$

26) -143
$+360$
217

In QIII $RA = \theta - 180$

$RA = 217 - 180$

$RA = \boxed{37°}$

27) $\sin A \geq 0$ Sin is Positive (QI or QII)
$\cos A < 0$ cos is Negative (QII or QIII) (B)

28) $\sin A < 0$ sin is (-) (QIII or QIV
$\cos A < 0$ cos is (-) QII or QIII) (C)

29) $3x^2 + 21x = 24$

$3x^2 + 21x - 24 = 0$

$3(x^2 + 7x - 8) = 0$

$(x+8)(x-1) = 0$

$x = -8 \quad x = 1$

(C)

30) $-10, -17, -24, -31 \ldots$

$d = -7 \qquad -38$ (A)

31) $\sum_{n=1}^{5} (-2n + 100) = \boxed{470}$

$(-2(1)+100) + (-2(2)+100) + (-2(3)+100) + (-2(4)+100) + (-2(5)+100)$

32) $|2x - 3| \leq 1$

$2x - 3 \leq 1$
$+3 \quad +3$
$\frac{2x}{2} \leq \frac{4}{2}$
$x \leq 2$

$2x - 3 \geq -1$
$+3 \quad +3$
$\frac{2x}{2} \geq \frac{2}{2}$
$x \geq 1$

$1 \leq x \leq 2$ (B)

33) $\frac{3}{2+3i} \cdot \frac{2-3i}{2-3i} = \frac{6-9i}{4-9i^2} = \frac{6-9i}{4+9} = \frac{6-9i}{13}$ (C)

34) $f(x) = 3x - 1 \qquad g(x) = 4x + 3$

$f(x) = 3x - 1$

$g(3x-1) = 4(3x-1) + 3$

$= 12x - 4 + 3$

$= 12x - 1$ (C)

35) $C = (4, -3) \quad r = 5$

$(x-4)^2 + (y+3)^2 = 5^2$

$x^2 - 8x + 16 + y^2 + 6y + 9 = 25$

$-25 \quad -25$

$x^2 - 8x + y^2 + 6y = 0$

(A)